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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,692	07/27/2001	David A. Richard	VTE1-BP03	9264

7590

01/29/2003

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EXAMINER

BARR, MICHAEL E

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 01/29/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,692

Applicant(s)

RICHARD, DAVID A.

Examiner

Michael Barr

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 1-15, 28 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Claims 16-27 in Paper No. 4 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 1-15 and 28-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 4.

Drawings

3. The drawing is objected to because there is only a single drawing and it is labeled as "FIG 1". When there is only a single drawing in an application to illustrate the claimed invention, it must not be numbered and the abbreviation "FIG." must not appear (MPEP 608.02). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. *Please note that the specification should also be amended accordingly to reflect any changes to the drawing.*

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Specification

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The range limitations of Claim 21 are not described in the specification.

Claim Objections

5. Claims 26-27 are objected to because of the following informalities: Claims 26-27 are dependent upon Claim 1, which has been withdrawn from consideration. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 16-22 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the surface hardening layer being an organo-silane material, does not reasonably provide enablement for any material. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. The specification only describes the invention using an organo-silane material as the surface hardening layer and does not provide any guidance how to determine or find any other material which would provide the desired surface hardening layer. It would require one skilled in the art undue experimentation to find

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such material to provide the claimed surface hardening layer. Therefore, it is the examiner's position that Claims 16-22 are broader than the enabling disclosure.

8. Claims 16-19 and 22-25 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the hydrophobic coating being a perfluoroalkylsilane, does not reasonably provide enablement for an hydrophobic coating material. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. The specification only describes the invention using a perfluoroalkylsilane as the hydrophobic coating material and does not provide any guidance how to determine or find any other material which would provide the desired hydrophobic coating layer. It would require one skilled in the art undue experimentation to find such material to provide the claimed hydrophobic coating layer. Therefore, it is the examiner's position that Claims 16-19 and 22-25 are broader than the enabling disclosure.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 26-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 26-27 are dependent upon Claim 1. However, Claims 26-27 are method claims, while Claim 1 is an article claim. Therefore, it is not clear as to what the "method of Claim 1" is in Claims 26-27, as Claim 1 has no method steps.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 16-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okaue et al. in view of Murase et al.

Okaue et al. teaches forming a multilayer coating over an optical resin substrate by forming a multiple inorganic layers of sequential, alternating layers of silica, zirconia and silica, zirconia, and silica by vacuum deposition techniques, and then vacuum depositing a hydrophobic layer material, such as a perfluoroalkylsilane material (Col. 1, lines 12-23; Col. 2, lines 1-6; Col. 5, lines 45-47; Col. 13, lines 26-55; Example 1; Col. 19, lines 53-59). While Okaue et al. does not specifically teach that the coatings are transparent. Okaue et al. does teach that these coatings are used for such purposes as ophthalmic lenses, which would indicate that the coatings are transparent. Okaue et al. does not teach that the hydrophobic coating material and inorganic layers have substantially equal thermal coefficients of expansion. However, since Okaue et al. teaches the claimed layer materials, it would have been expected they would have the claimed properties, including thermal coefficients of expansion.

Okaue et al. does not teach the addition of the claimed surface hardening layer over the substrate prior to applying the inorganic layers. Murase et al. teaches forming an inorganic oxide layer (silica; zirconia) over a transparent optical resin substrate by vacuum deposition by applying a primer material, such as an organo-silane (triethoxymethylsilane), on the substrate, in

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order to improve adhesion of the oxide layer on the substrate (Col. 4, lines 14-27; Col. 11, lines 44-61; Col. 12, lines 42-47; Col. 14, line 43-Col. 15, line 11). Murase teaches that the primer layer can be applied at a thickness within the claimed thickness (Col. 14, lines 6-14). It would have been obvious to one skilled in the art to apply the primer layer of Murase et al. to the resin substrate of Okaue et al., prior to vacuum depositing the silica and zirconia layers, in Okaue et al., with the expectation of improving the adhesion of the oxide layers to the resin substrate, as is taught by the similar process of Murase et al.

Okaue et al. teaches applying alternating layers of silica, zirconia and silica, zirconia, and silica, as indicated above. The second layer of zirconia and silica, in Okaue et al., does not specifically teach separate layers of zirconia and silica. However, the application of two the materials sequentially (zirconia and then silica), instead of zirconia and silica together, in the second layer, would have been an obvious modification to Okaue et al., as such a modification would have been expected to be substantially equivalent in terms of function and result. Such a modification is considered within the skill of the art (*Ex parte Rubin* 128 USPQ 159).

Okaue et al. does not teach the claimed thicknesses of the silica, zirconia, and perfluoroalkylsilane layers. However, one of ordinary skill in the art would have recognized that the thicknesses of the layers would have an effect on the optical and hydrophobic properties of the product, as too thin of layers would not provide the desired properties and too thick of layers would not be as useful as optical lenses, due to size constraints. It is considered within the skill of the art to determine an optimal or workable range of a result effect variable, through routine experimentation (*In re Boesch* 205 USPQ 215). Therefore, it would have been obvious to one skilled in the art to determine a workable or useable layer thicknesses in Okaue et al., through

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routine experimentation. It is the examiner's position that the claimed thicknesses would have been obvious to one skilled in the art, through such routine experimentation.

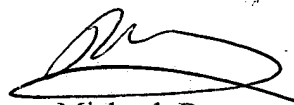
Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Solberg et al. teaches applying transparent alternating layers of silica and zirconia over a glass substrate.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Barr whose telephone number is 703-305-7919. The examiner can normally be reached on Monday-Thursday 6:00 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 703-308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 or 703-305-5408 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Michael Barr
Primary Examiner
Art Unit 1762

MB
January 22, 2003